

Title (en)  
ANOMALY DETECTION IN DATA STREAMS RELATING TO TELECOMMUNICATIONS ACCOUNT DATA

Title (de)  
DETEKTION VON ANOMALIEN IN DATENSTRÖMEN VON TELEKOMMUNIKATIONSKONTEN

Title (fr)  
ECART DYNAMIQUE

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Application  
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Abstract (en)  
[origin: WO0141469A2] A method and related apparatus and software of detecting anomalies in a stream of data values. The method comprises the steps of: receiving a data value on the stream of data; calculating a new weighted average responsive to the received data value, a previously stored weighted average associated with the stream of data, and a decay rate in the range of 0 to 1; and calculating a new measure of deviation from the new weighted average responsive to the new weighted average, the data value, a previously stored measure of deviation associated with the stream of data, and the decay rate.  
[origin: WO0141469A2] The present invention relates to a method and apparatus for deriving a statistical measure of variation from a decaying mean, and in particular to their use in telecommunications and anomaly detection applications and a system incorporating the same. A disadvantage of using the conventional statistical averages and measures of variance such as mean and standard deviation is that all input data values have equal influence on the resulting measures. In situations where the event data may be locally stable but vary significantly over longer time scales (e.g. telephone account usage patterns), it is undesirable that older data values relating to prior (pseudo-)stable states should retain equal influence in measures to be applied to the current (pseudo-)stable state. The method comprises a specific mathematical formula for maintaining a sequential deviation measure. The method extends to allow for calculation of deviation to be itself decayed where no events of a given type occur in the event stream.

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